

NOV 23 2004

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Form PTO-1449 (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		ATTY. DKT. NO. RACT-00200 APPLICANT: McDaniel FILING DATE: September 4, 2003	SERIAL NO. 10/655,345 GROUP: 1645	
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U.S. PATENT DOCUMENTS

EXAM. INITIALS	REF. DES.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
		US 2002/0106361 A1	8/8/2002	Composition	424/94	.4	11/30/2001
		5,482,996	1/9/1996	Protein Containing polymers and a method of synthesis of protein-containing polymers in organic solvents	525/54	.1	12/8/1993
		5,484,728	1/16/1996	Parathion hydrolase analogs and methods for production and purification	435/19	6	11/1/1994
		5,589,386	12/31/1996	Hydrolysis of cholinesterase inhibitors using parathion hydrolase	435/26	2.5	2/17/1989
		5,928,927	7/27/1999	Enzymatic detoxification or organophosphorus compounds	435/19	6	2/6/1997
		6,291,200	9/8/2001	Enzyme-containing polymeric sensors	435/20		11/17/1999

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

85	1	LAMBOURNE, R. ed. et al. Paint and Surface Coatings, Theory and Practice, 2 nd Ed, 1999. 2-3, 10, 24, 51, 162, 193-194, 371-383, 397, 448, 494-497, 533, 541-547, 700.
✓	2	DREVON G. et al. High-Activity Enzyme Polyurethane Coatings, <i>Biotechnology and Bioengineering</i> 2002, Vol. 79, No. 7, 785-794.
3		DEFRANK, J. et al. Advanced Catalytic Enzyme System (ACES)- Dual Use Capabilities. U.S. Army Edgewood Chemical Biological Center Aberdeen Proving Grounds.
4		Paint Research Association. <i>Emulsion Polymer Technologies</i> . April 2002. http://www.pra.org.uk/publications/emulsion/emulsionhighlights-2002.htm .
5		Green Marine Paint. <i>Chemical Week</i> , April 11, 2001. 33.
6		"Reactive Coatings Literature Review" Department of Commerce National Technical Information Service, 2002.
85	7	CALBO, L. <i>Handbook of Coatings Additives</i> . 43-63, 177-224. 1987. New York: Marcel Dekker, Inc.
85	8	FLECK, E. <i>Handbook of Paint Raw Materials</i> , 2 nd ed. 263-283. New Jersey: Noyes Publications.
85	9	KARSA, D. et al. <i>Waterborne Coatings and Additives</i> . 202-216, 243-251. 1995. Cambridge: Royal Society of Chemistry.
✓	10	STOYE, D. et al. <i>Paints, Coatings, and Solvents</i> , Second Completely Revised edition. 6, 12-19, 127, 165, 288-290. 1998. Weinheim: Wiley-Vch

SHERIDAN SWOPE, Ph.D.

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Form PTO-1449 (modified) List of Patents and Publications For Applicant's Information Disclosure Statement NOV 23 2004 (Use several sheets if necessary)			ATTY. DKT. NO. RACT-00200	SPECIALTY: McDaniel			SERIAL NO. 10/655,345
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1	1	RAININA, E. et al. The development of a new biosensor based on recombinant <i>E. coli</i> for the direct detection of organophosphorus neurotoxins. <i>Biosensors & Bioelectronics</i> 11, (10). 991-1000. 1996.					
	2	GABERLEIN, S. et al. Microbial and cytoplasmic membrane-based potentiometric biosensors for direct determination organophosphorus insecticides. <i>Applied Microbiology and biotechnology</i> , 54, (5). 652-658. 2000.					
	3	MULCHANDANI, A. et al. A potentiometric microbial biosensor for direct determination of organophosphate nerve agents. <i>Electroanalysis</i> , 10 (11). 733-737. 1998.					
	4	MULCHANDANI, A. et al. Biosensor for direct determination of organophosphate nerve agents using recombinant <i>Escherichia coli</i> with surface-expressed organophosphorus hydrolase. 1. Potentiometric microbial electrode. <i>Analytical Chemistry</i> , 70 (19). 4140-4145. 1998.					
	5	MULCHANDANI, A. et al. Biosensor for direct determination of organophosphate nerve agents using recombinant <i>Escherichia coli</i> with surface-expressed organophosphorus hydrolase. 2. Fiber optic microbial biosensor. <i>Analytical Chemistry</i> , 70. 5042-5046. 1998.					
	6	MULCHANDANI, P. et al. Amperometric microbial biosensor for direct determination of organophosphate pesticides using recombinant microorganism with surface expressed organophosphorus hydrolase. <i>Biosensors and Bioelectronics</i> , 16. 433-437. 2001.					
	7	WANG, A. et al. Specific adhesion to cellulose and hydrolysis of organophosphate nerve agents by a genetically engineered <i>Escherichia coli</i> strain with a surface-expressed cellulose-binding domain and organophosphorus hydrolase. <i>Applied & Environmental Microbiology</i> , 68, No. 4. 1684-1689. 2002.					
	8	HONG, M. et al. Neurotoxic Organophosphate Degradation with Polyvinyl Alcohol Gel-Immobilized Microbial Cells," <i>Bioremediation Journal</i> 2, No. 2. 145-157. 1998.					
	9	EFREMENKO, E. et al. Addition of Polybrene improves stability of organophosphate hydrolase immobilized in poly(vinyl alcohol) cryogel carrier. <i>J. Biochem. Biophys Methods</i> 51, No. 2; 195-201. 2002.					
	10	KIM, J. et al. Enhanced-rate biodegradation of organophosphate neurotoxins by immobilized nongrowing bacteria. <i>Biotechnol Prog</i> . 18(3):429-36. 2002.					
	11	MULCHANDANI, A. et al. Detoxification of organophosphate nerve agents by immobilized <i>Escherichia coli</i> with surface-expressed organophosphorus hydrolase. <i>Biotechnology Bioengineering</i> . 63(2). 216-23. 1999.					
	12	ALBIZO, J. et al. The Hydrolysis of GD and VX by Acetone Dried Preparations of Cured and Plasmid-Containing <i>Pseudomonas Diminuta</i> . Chemical Research, Development & Engineering Center Scientific conference on Chemical Defense Research, November 18-21, pp. 643-649, 1986.					
	13	WU, C. et al. GFP-visualized immobilized enzymes: degradation of paraoxon via organophosphorus hydrolase in a packed column. <i>Biotechnology & Bioengineering</i> 77, 212-218. 2002.					

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85	1	LEJEUNE, K. et al. Covalent binding of a nerve agent hydrolyzing enzyme within polyurethane foams. <i>Biotechnology and Bioengineering</i> 51 (4), 450-457. 1996.					
	2	LEJEUNE, K. et al. Dramatically stabilized phosphotriesterase-polymers for nerve agent degradation. <i>Biotechnology and Bioengineering</i> 54(2), 105-114. 1997.					
	3	LEJEUNE, K. et al. Increasing the Tolerance of Organophosphorus Hydrolase to Bleach. <i>Biotechnology and Bioengineering</i> 64(2):250-254, 1999.					
	4	HAVENS, P. et al. Reusable Immobilized Enzyme/Polyurethane Sponge for Removal and Detoxification of Localized Organophosphate Pesticide Spills. <i>Ind. Eng. Chem. Res.</i> 32, 2254-2258. 1993.					
	5	GORDON, R. et al. Organophosphate Skin decontamination using immobilized enzymes <i>Chemico-Biological Interactions</i> 119-120:463-470, 1999.					
	6	MUNNECKE, D. et al. Hydrolysis of Organophosphate Insecticides by an Immobilized-Enzyme System. <i>Biotechnology Bioengineering</i> , 21. 2247-2261. 1979.					
	7	MUNNECKE, D. Detoxification of pesticides using soluble or immobilized enzymes. <i>Process Biochemistry</i> . 14-16. 1978.					
	8	MULCHANDANI, P. et al. Biosensor for direct determination of organophosphate nerve agents. 1. Potentiometric enzyme electrode. <i>Biosensors & Bioelectronics</i> 14, 77-85. 1999.					
	9	MULCHANDANI, A. et al. Fiber-optic enzyme biosensor for direct determination of organophosphate nerve agents. <i>Biotechnology Progress</i> 15. 130-134. 1999.					
	10	MULCHANDANI, P. et al. A. Flow injection amperometric enzyme biosensor for direct determination of organophosphate nerve agents. <i>Environmental Science Technology</i> . 35, 2562-2565. 2001.					
	11	SINGH, A. et al. Development of sensors for direct detection of organophosphates. Part I: immobilization, characterization and stabilization of acetylcholinesterase and organophosphate hydrolase on silica supports". <i>Biosensors & Bioelectronics</i> 14, 703-713. 1999.					
	12	ROGERS, K. et al. Organophosphorus hydrolase-based assay for organophosphate pesticides. <i>Biotechnology Progress</i> 15, 517-521. 1999.					
	13	GABERLEIN S. et al. Disposable potentiometric enzyme sensor for direct determination of organophosphorus insecticides. <i>Analyst</i> 125, No. 12. 2274-2279. 2000.					
	14	WANG, J. et al. Orientation specific immobilization of organophosphorus hydrolase on magnetic particles through gene fusion. <i>Biomacromolecules</i> 2, 700-705. 2001.					
	15	MULCHANDANI, P. et al. Biosensors for direct determination of organophosphate pesticides. <i>Biosensors & Bioelectronics</i> 16. 225-230. 2001.					
	16	CALDWELL, S. et al. Detoxification of Organophosphate Pesticides Using a Nylon Based Immobilized Phosphotriesterase From <i>Pseudomonas Diminuta</i> . <i>Applied Biochemistry & Biotechnology</i> 31, 59-730. 1991.					
	17	LEJEUNE, K. et al. Biocatalytic nerve agent detoxification in fire fighting foams. <i>Biotechnology & Bioengineering</i> 62(6), 659-665. 1999.					
	18	LEJEUNE, K. et al. Nerve agents degraded by enzymatic foams. <i>Nature</i> 395, 6697. 27-28. 1998.					

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85	1	KOMIVES, C. et al. Degradation of pesticides in a continuous-flow two-phase microemulsion reactor. <i>Biotechnology</i> 10, 340-343. 1994.					
	2	PEI, L. et al. Encapsulation of Phosphotriesterase Within Murine Erythrocytes. <i>Toxicology and Applied Pharmacology</i> 124, 296-301. 1994.					
	3	PETRIKOVICS, I. et al. Antagonism of paraoxon intoxication by recombinant phosphotriesterase encapsulated within sterically stabilized liposomes. <i>Toxicology & Applied Pharmacology</i> 156, 56-63. 1999.					
	4	YANG, F. et al. Nonaqueous biocatalytic degradation of a nerve gas mimic. <i>Biotechnology</i> 11, 471-474. 1995.					
	5	CALDWELL, S. et al. Detoxicification of Organophosphate Pesticides Using an Immobilized Phosphotriesterase from <i>Pseudomonas diminuta</i> . <i>Biotechnology and Bioengineering</i> 37, 103-109. 1991.					
	6	ANDREOPoulos, F. et al. Photoimmobilization of organophosphorus hydrolase within a PEG-based hydrogel. <i>Biotechnology Bioengineering</i> . 65(5), 579-588. 1999.					
	7	LEI, C. Entrapping Enzyme in a Functionalized Nanoporous Support." <i>J. American Chemical Society</i> , 124. 11242-11243. 2002.					
85	8	CHENG, T. et al. Alteromonas proliidase for organophosphorus G-agent decontamination. <i>Chemico-Biological Interactions</i> 119-120, 455-462. 1999.					
	9	MCGUINN, W. et al. The Encapsulation of Squid Diisopropylphosphorofluoridate-Hydrolyzing Enzyme within Mouse Erythrocytes. <i>Fundamental and Applied Toxicology</i> 21:38-43, 1993.					
	10	HOSKIN, C. et al. Hydrolysis of Nerve Gas by Squid-Type Diisopropyl Phosphorofluoridate Hydrolyzing Enzyme on Agarose Resin". <i>Science</i> , Vol. 215. 1255-1257. 1982.					
	11	DREVON, G. et al. Irreversible Immobilization of Diisopropylfluorophosphatase in Polyurethane Polymers <i>Biomacromolecules</i> 1:571-576, 2000.					
	12	DREVON, G. et al. Thermoactivation of Diisopropylfluorophosphatase Containing Polyurethane Polymers. <i>Biomacromolecules</i> 2:664-671, 2001.					
	13	DUMAS, D. et al. Purification and Properties of the Phosphotriesterase from <i>Pseudomonas diminuta</i> . 1-28.					
	14	DUMAS, D. et al. Inactivation of organophosphorus nerve agents by the phosphotriesterase from <i>pseudomonas diminuta</i> . 1-14.					
85	15	MCDANIEL, C. et al. Cloning and sequencing of a plasmid-borne gene (opd) encoding a phosphotriesterase. <i>J. of Bacteriology</i> . 170, 5. 2306-2311. 1998.					
	16	LEWIS, V. et al. Mechanism and stereochemical course at phosphorus of the reaction catalyzed by a bacterial phosphotriesterase. <i>Biochemistry</i> . 27. 1591-1597. 1988.					
	17	RICHINS, R. et al. Expression, immobilization, and enzymatic characterization of cellulose-binding domain-organophosphorus hydrolase fusion enzymes. <i>Biotechnology & Bioengineering</i> , 69(6). 591-596. 2000.					

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✓ 1	CHEN, T. et al. Combinatorial screening for enzyme-mediated coupling. Tyrosinase-catalyzed coupling to create protein-chitosan conjugates. <i>Biomacromolecules</i> . 456-462. 2001.						
✓ 2	SHIMAZU, M. et al. Thermally triggered purification and immobilization of elastin-OPH fusions. <i>Biotechnology & Bioengineering</i> , 81(1). 75-79. 2003.						
✓ 3	CHEN, W. et al. The use of live biocatalysts for pesticide detoxification. <i>Trends in Biotechnology</i> 16. 71-76. 1998.						
✓ 4	LEJEUNE, K. et al. Fighting nerve agent chemical weapons with enzyme technology. <i>Annals New York Academy of Sciences</i> , 864. 153-170. 1998.						
✓ 5	PETRIKOVICS, I. et al. In vitro studies on sterically stabilized liposomes (SL) as enzyme carriers in organophosphorus (OP) antagonism. <i>Drug Delivery</i> 7. 83-89. 2000.						
✓ 6	PETRIKOVICS, I. et al. Long circulating liposomes encapsulating organophosphorus acid androlase in diisopropylfluorophosphate antagonism. <i>Toxicological Sciences</i> 57. 16-21. 2000.						
✓ 7	ASTM D 5589-97. Standard test method for determining the resistance of paint films and related coatings to algal defacement. ASTM International.						
✓ 8	ASTM D 5590-94. Standard test method for determining the resistance of paint films and related coatings to fungal defacement by accelerated four-week agar plate assay. ASTM International.						
✓ 9	ASTM D 3623 - 78a. Standard test method for testing antifouling panels in shallow submergence. ASTM International.						
✓ 10	ASTM D 4610-98. Standard guide for determining the presence of and removing microbial (fungal or algal) growth on paint and related coatings. ASTM International.						
✓ 11	ASTM D 4938-89. Standard test method for erosion testing of antifouling paints using high velocity water. ASTM International.						
✓ 12	ASTM D 4939-89. Standard test method for subjecting marine antifouling coating to biofouling and fluid shear forces in natural seawater. ASTM International.						
✓ 13	ASTM D 5108-90. Standard test method for organotin release rates of antifouling coatings system in sea water. ASTM International.						
✓ 14	ASTM D 5479-94. Standard practice for testing biofouling resistance of marine coatings partially immersed. ASTM International.						
✓ 15	ASTM D 5618-94. Standard test method for measurement of barnacle adhesion strength in shear. ASTM International.						
✓ 16	ASTM D 912-81. Standard specification for cuprous oxide for use in antifouling paints. ASTM International.						
✓ 17	ASTM D 964-65. Standard Specification for copper powder use in antifouling paints. ASTM International.						

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	1	ASTM D 2574-97. Standard test method for resistance of emulsion paints in the container to attack by microorganisms. ASTM International.					
	2	ASTM D 3274- 95. Standard test method for evaluating degree of surface disfigurement of paint films by microbial (fungal or algal) growth or soil and dirt accumulation. ASTM International.					
	3	ASTM D 3273-94. Standard test method for resistance to growth of mold on the surface of interior coatings in an environmental chamber. ASTM International.					
	4	ASTM D 3456-86. Standard practice for determining by exterior exposure tests the susceptibility of paint films to microbiological attack. ASTM International.					

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